1. A non-volatile transistor device, comprising

a source region and a drain region of a first semiconductor type of material;

a channel region of a second semiconductor type of material disposed between the source and drain region;

a gate structure made of at least one of semiconductive or conductive material and disposed over an insulator over the channel region;

a control gate made of at least one of semiconductive or conductive material;

an electromechanically-deflectable nanotube switching element wherein the element is in fixed contact with one of the gate structure and the control gate structure and wherein the element is not in fixed contact with the other of the gate structure and the control gate structure;

wherein the device has a network of inherent capacitances, including an inherent capacitance of an undeflected nanotube switching element in relation to the gate structure, such that the nanotube switching element is deflectable into contact with the other of the gate structure and the control gate structure in response to signals being applied to the control gate and one of the source region and drain region.

2. The non-volatile transistor device of claim 1 wherein the nanotube switching element is an article formed from a porous fabric of nanotubes.

3. The non-volatile transistor device of claim 1 wherein the fabric is substantially a monolayer of nanotubes.

4. The non-volatile transistor device of claim 1 wherein the nanotubes are single-walled carbon nanotubes.

5. The non-volatile transistor device of claim 1 wherein the source and drain regions

are disposed on or in a horizontal substrate and wherein the nanotube switching element is suspended horizontally in relation to the horizontal substrate.

6. The non-volatile transistor device of claim 5 wherein the source and drain regions are formed as diffusions and one of the source and drain diffusions is a selection line for the device, and wherein the nanotube switching element is a second selection line for the device.

7. The non-volatile transistor device of claim 6 wherein the source and drain regions are disposed orthogonal to the nanotube element.

8. The non-volatile transistor device of claim 7 wherein the device has an area of about $4F^2$.

9. The non-volatile transistor device of claim 1 wherein the device includes a metallic layer disposed on the gate structure on a surface facing the nanotube switching element.

10. The non-volatile transistor device of claim 5 wherein the nanotube switching element is supported by supports having a known dielectric characteristic and wherein the geometry of the supports is of a tailored size to create a known inherent capacitance of an undeflected nanotube switching element in relation to the gate structure and wherein the known inherent capacitance of the undeflected nanotube switching element has a known ratio relationship to an inherent capacitance characterizing the gate structure in relation to the channel region.

11. The non-volatile transistor device of claim 10 wherein the ratio relationship is about 0.25.

12. The non-volatile transistor device of claim 7 further comprising a release line

positioned in spaced relation to the nanotube switching element, and having a horizontal orientation that is parallel to the orientation of the source and drain diffusions.

13. The non-volatile transistor device of claim 12 wherein the device includes a metallic layer disposed on the release line on a surface facing the nanotube switching element.

14. The non-volatile transistor device of claim 1 wherein device has an area of about $4F^2$ and is a bit-selectable read/write device.

15. The non-volatile transistor device of claim 1 wherein the contact between the nanotube switching element and the one of the control gate and gate structure is a non-volatile state.

16. A method of operating an array of transistor devices in which each transistor device has a source region and a drain region of a first semiconductor type of material and a channel region of a second semiconductor type of material disposed between the source and drain region, and wherein each transistor device further includes a gate structure made of at least one of semiconductive or conductive material and disposed over an insulator over the channel region, a control gate made of at least one of semiconductive or conductive material, and an electromechanically-deflectable nanotube switching element in fixed contact with one of the gate structure and the control gate structure and wherein the element is not in fixed contact with the other of the gate structure and the control gate, and wherein each transistor device further includes a release line positioned in spaced relation to the nanotube switching element, the method comprising the acts of:

applying substantially the same voltage values to the source and drain diffusions;

applying a voltage to the nanotube switching element sufficient to deflect it into contact with the other of the control gate and gate structure;

applying voltages to the release line and the nanotube switching element for the devices to be written with voltages to place the nanotube switching element in a corresponding information state.

17. The method of claim 16 further comprising the act of applying a different set of voltages to the release line and the nanotube switching elements for the other devices in the array, not to be written to.

18. The method of claim 17 wherein the different set of voltages are sufficiently low to prevent write disturbs to adjacent devices in the array.

19. A crossbar array having n input lines and n output lines, comprising:

n^2 non-volatile transistor devices, each device including

a source region and a drain region of a first semiconductor type of material;

a channel region of a second semiconductor type of material disposed between the source and drain region;

a gate structure made of at least one of semiconductive or conductive material and disposed over an insulator over the channel region;

a control gate made of at least one of semiconductive or conductive material;

an electromechanically-deflectable nanotube switching element wherein the element is in fixed contact with one of the gate structure and the control gate structure and wherein the element is not in fixed

contact with the other of the gate structure and the control gate structure; the nanotube switching element being deflectable into non-volatile contact with the other of the gate structure and the control gate structure in response to signals being applied to the control gate and one of the source region and drain region;

a release line positioned in spaced relation to the nanotube switching element;

a switch line decoder providing n select lines, each select line coupled to one of the source and drain regions of each device of a corresponding set of devices;

a release line decoder providing n select lines, each release line coupled to a release line of each device of a corresponding set of devices.